

Serial No. 10/025,156
Art Unit 1762

Amendment E After Final

Amendments to and Listing of the Claims:

1. (Currently Amended) A method for powder coating a plastic injection molded article comprising the steps of:

preheating the article to a preheating temperature that is above a melting point temperature but below a curing temperature;

substantially completely degassing the article;

coating the preheated and degassed article with a polymeric powder coating, the polymeric powder coating having a cross-linking temperature that is above the preheating and melting point temperatures, the powder coating softening and adhering to the preheated and degassed article; and

heating the article having the powder coating applied thereto at the curing temperature, which is higher than the preheating temperature, the curing temperature being at least 375°F and being between the powder coating cross-linking temperature and the melting point temperature of the article to produce a coated and cured degassed plastic injection molded article.

2. (Original) The method for powder coating in accordance with claim 1 including the step of drying the article at a temperature below a melting point temperature of the article prior to preheating the article.

3. (Original) The method for powder coating in accordance with claim 1 including the step of cleaning the article to remove contamination with a wash solution prior to preheating the article.

4. (Original) The method for powder coating in accordance with claim 3 including the step of drying the article to remove any remaining wash solution.

5. (Original) The method for powder coating in accordance with claim 1 including the step of cooling the coated article subsequent to curing the article.

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6. (Currently Amended) The method for powder coating in accordance with claim 1 including the step of applying a second coat of polymeric powder coating on the coated and cured article, the second coat of polymeric powder coating having a cross-linking temperature and being applied over the first coating of the powder coating after curing thereof, the second coat of polymeric coating being applied over the first coat of powder coating at a temperature that is above the melting point temperature but below the cross-linking temperature of the second coat of polymeric powder coating and is above the preheating temperature; and heating the article having the second coat of powder coating applied thereto at a second curing temperature that is higher than the preheating and melting point temperatures, the second curing temperature being at least 375°F and being between the cross-linking temperature of the second coat of powder coating and the melting point temperature of the article.

7. (Cancelled).

8. (Original) The method for powder coating in accordance with claim 6 including the step of drying the article at a temperature below a melting point temperature of the article prior to preheating the article.

9. (Original) The method for powder coating in accordance with claim 6 including the step of cleaning the article to remove contamination with a wash solution prior to preheating the article.

10. (Original) The method for powder coating in accordance with claim 9 including the step of drying the article to remove any remaining wash solution.

11. (Original) The method for powder coating in accordance with claim 6 including the step of cooling the coated article subsequent to curing the article.

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12. (Original) The method for powder coating in accordance with claim 1 wherein the coating step includes spraying the powder coating material from an electrically charged device.

13. (Original) The method for powder coating in accordance with claim 12 wherein the electrically charged device is an electrostatic spray gun.

14. (Original) The method for powder coating in accordance with claim 1 wherein the article is non-grounded during the coating step.

15. (Original) The method for powder coating in accordance with claim 1 wherein the preheating temperature is about 220°F to about 250°F and the powder coating is a carboxyl polyester resin based material having a cross-linking temperature greater than about 250°F, and wherein the article is cured at a temperature of about 400°F.

16. (Original) The method for powder coating in accordance with claim 15 including the steps of: applying a second coat of polymeric powder coating on the article, the second coat of polymeric powder coating being a carboxyl polyester resin based material having a cross-linking temperature great than about 250°F, the second coat of resin being applied over the cured first coating and being applied at a temperature less than about 250°F; and curing the article having the second coat of resin at a temperature of about 400°F.

17. (Original) The method for powder coating in accordance with claim 1 including the step of supporting the article without regard as to electrically grounding the article.

18. (Currently Amended) A method for powder coating a plastic injection molded article comprising the steps of:

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preheating the article to a preheating temperature below a melting point temperature of the article, ~~that is above first and second melting point temperatures~~ and that is below first and second curing temperatures;

substantially completely degassing the article;

coating the preheated and degassed article with a first polymeric powder coating, the first polymeric powder coating having ~~a melting point at the first melting point temperature~~ and a first cross-linking temperature that is above the preheating temperature, the powder coating softening and adhering to the preheated and degassed article;

heating the article having the first powder coating applied thereto at the first curing temperature, which is higher than the preheating ~~and first melting point~~ temperatures, the first curing temperature being at least about 375°F and being between the first powder coating cross-linking temperature and the melting point temperature of the articles;

coating the article with a second coat of polymeric powder coating over the cured first coating, the second coat of polymeric powder coating having ~~a melting point at the second melting point temperature~~ and a second cross-linking temperature, the second coat of polymeric coating being applied over the first coat of powder coating at a temperature below the second cross-linking temperature; and

heating the article having the second coat of powder coating applied thereto at the second curing temperature, which is higher than the preheating ~~and second melting point~~ temperatures, the second curing temperature being at least about 375°F and being between the second cross-linking temperature and the melting point temperature of the article to produce a twice coated and cured degassed plastic injection molded article.

19. (Original) The method for powder coating in accordance with claim 18 including the step of supporting the article without regard as to electrically grounding the article.

20. (Previously Presented) A powder coated plastic injection molded article produced in accordance with the method of claim 1.

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21. (Previously Presented) A powder coated plastic injection molded, non-conductive article produced in accordance with the method of claim 1.